

On the acquisition of a disjunctive licensing condition in semantics

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The problem: In this paper, we examine an analysis of negative polarity item (NPI) licensing in declaratives and interrogatives and its implications for child language acquisition; we then present novel evidence from children's spontaneous speech production that show that the predictions that arise from the theoretical semantic analysis are borne out. We take as our theoretical starting point the following two claims about NPI licensing in English: ① The licensing condition on weak NPIs is disjunctive (Guerzoni & Sharvit, 2007): in declarative sentences, weak NPIs require a downward-entailing (DE) environment (Ladusaw, 1979), while in questions, they require a strongly exhaustive environment (cf. 1). ② In declarative sentences, three classes of NPIs exist (weak, strong, and superstrong), which are licensed accordingly by three classes of NPI licensors that differ by strength (cf. 2): weak NPIs are licensed in the scope of a DE operator, strong NPIs require anti-additive (AA) licensors (which are also DE), and superstrong NPIs require anti-morphic (AM) licensors (which are also AA and DE) such as sentential negation (Zwarts, 1998) (cf. 3-4). Superstrong NPIs are thus licensed in a subset of the environments that license strong NPIs; strong NPIs are licensed in a subset of environments that license weak NPIs. Given these two claims from the semantics literature, the question arises as to how children can acquire such a complex grammatical phenomenon. We argue that children take a conservative approach to the acquisition of NPIs, and offer evidence that three particular predictions of a conservative approach are borne out.

Predictions: Assuming children take a conservative approach (cf. Snyder's (2007) *Grammatical Conservatism*), we predict the following: ❶ We should see very few errors, i.e. instances of unlicensed NPI *any*. ❷ Assuming the NPI *any* that appears in both declaratives and interrogatives is a single lexical item, the child should not produce NPI *any* in either environment until she has clear evidence of its disjunctive licensing condition. *Any* should therefore surface in both declaratives and interrogatives concurrently. ❸ The initial hypothesis regarding possible licensors in declaratives should be the narrowest compatible with the evidence available in the input (cf. *subset principle*, Berwick & Weinberg, 1984; van der Wal, 1996). With positive evidence, the child can expand her class of licensors to include non-AM and non-AA licensors.

Results: To test these predictions, we studied the spontaneous speech production of 18 children acquiring American English, whose corpora are available on CHILDES (MacWhinney, 2000). The ages represented in the transcripts ranged from 0;11,28 to 5;02,12. ❶ Error rates ranged from 0-13.46%, though in absolute terms, the raw number of unlicensed NPI *any* was very low – the maximum number of apparently unlicensed NPI *any* produced by a single child was 7 out of a total of 52 occurrences of NPI *any*. For the most part, children seem to make very few NPI licensing errors, as is consistent with a conservative learning strategy; the children proceed cautiously and generally do not produce the NPI *any* until they have figured out the appropriate licensing conditions for their language. Given that the “errors” are interspersed among adult-like usage of the NPI, it appears the children are indeed proceeding conservatively. Moreover, in the majority of cases of apparently unlicensed *any*, children clearly intend a negative meaning, and are therefore simply omitting negation; this is consistent with a conservative approach under which the child tends to omit certain elements rather than make commission errors. ❷ NPI *any* is a relatively low frequency construction; for the prediction concerning the time course of acquisition (i.e. the relative order of acquisition of *any* in declaratives and interrogatives), we

thus considered only four children who had a sufficient frequency of *any* in both declaratives and interrogatives. While there was great variation in the age of onset of *any* across the four children (ranging from 2;03,21-3;02,16), whenever *any* surfaced in one construction, it surfaced in the other as well. For no child was the gap between the onset of *any* in the two constructions statistically significant (by Binomial Test), suggesting concurrent emergence of *any* in declaratives and interrogatives. ❸ None of the 18 children pose an exception to the Subset Principle; they all appear to start with the narrowest subset of licensers compatible with the evidence they receive in the input. The most frequently occurring licenser in both the input and the children's production is sentential negation, which happens to align with the narrowest subset of NPI licensers in English. Not surprisingly, first uses of NPI *any* always involved licensing by sentential negation. In the remainder of the transcripts, occurrences of other licensers were adult-like, and thus consistent with the children following a conservative 'subset-to-superset' route.

Conclusion: The results suggest that conservative learning strategies are active in the acquisition of semantics, and particularly of conditions on NPI licensing. The narrowest subset option compatible with the input is taken as the initial hypothesis, allowing the child to move to a superset option with increasing positive evidence. Moreover, given the disjunctive licensing condition for the two environments, the results further support a conservative approach, according to which the child acquires productive use of questions and sentential negation, figures out the disjunctive licensing condition for English *any*, and only then begins to use NPI *any* in both environments.

- (1) John knows who left.
 - a. Weakly exhaustive reading: For every x, if x left, John knows that x left.
 - b. Strongly exhaustive reading: For every x, if x left, John knows that x left, and if x didn't leave, John knows that x didn't leave. (Guerzoni & Sharvit, 2007:369)
- (2) Strengths of negation (Zwarts, 1998)

$f(x) \vee f(y) \rightarrow f(x \wedge y)$	} Downward-entailing (<i>weak NPIs</i>)
$f(x \vee y) \rightarrow f(x) \wedge f(y)$	
$f(x) \wedge f(y) \rightarrow f(x \vee y)$	
$f(x \wedge y) \rightarrow f(x) \vee f(y)$	
	} Anti-additive (<i>strong NPIs</i>)
	} Anti-morphic (<i>superstrong NPIs</i>)
- (3)a. Anti-morphic: sentential negation *not* (Zwarts, 1998)
 b. Anti-additive: *no, nothing, never, no one, nowhere, without, before, nobody...*
 c. Downward-entailing: *less than n, not every, hardly, rarely, only, at most, few, not many...*
- (4)a. *Weak*: I **hardly/never/don't** have any time to read these days.
 b. *Strong*: ***Not everyone/No one** has seen him in years.
 I haven't seen him in years.
 c. *Superstrong*: I was ***hardly/not one bit** happy with that ending.
 *I was **never one bit** happy with that ending.

References

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